

**IN THE UNITED STATES DISTRICT COURT
FOR THE EASTERN DISTRICT OF TEXAS
MARSHALL DIVISION**

MONUMENT PEAK

VENTURES, LLC

Plaintiff,

v.

XEROX CORPORATION

Defendant.

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CIV. A. NO. 2:21-cv-0345-JRG-RSP

JURY TRIAL DEMANDED

PLAINTIFF'S OPENING CLAIM CONSTRUCTION BRIEF

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I. INTRODUCTION

Monument Peak Ventures LLC (“MPV”) asserts five patents against Xerox Corporation (“Xerox”).¹ All five patents originated from pioneering work Kodak did to develop image processing, reproduction, and storage technologies that have been widely adopted by Xerox and its competitors. The asserted patents are not related, although significant advances Kodak made are reflected across them, and several of the claim construction disputes substantively overlap.

II. THE ASSERTED PATENTS AND DISPUTED CLAIM TERMS

Asserted Patent	Claim Term(s) in Dispute
6,810,149 [Dkt. 1-1]	- digital image (Term 1)
6,873,336 [Dkt. 1-2]	- image (Term 2) - improve the visual appeal (Term 3) - automatically adjusting the colorimetric aspect (Term 4) - predetermined criteria (Term 5)
7,006,890 [Dkt. 1-3]	- automatically (Term 6) - said at least one criteria (Term 7) - predetermined criterion (Term 8)
7,092,573 [Dkt. 1-4]	- belief map” (Term 9) - varying pixel by pixel (Term 10) - controlling the degree of image enhancement pixel by pixel (Term 11) - varying the control signal pixel by pixel (Term 12)
7,092,966 [Dkt. 1-5]	- automatically (Term 13) - automatically searching (Term 14) - automatically...providing (Term 15) - “digital container for placement of digital image content...having at least one designed image parameter” (16) - “image content candidate” (17)

¹ On May 11, 2022, MPV dismissed its claim for infringement of U.S. Patent No. 7,684,090. Dkt. 90.

III. ARGUMENT ON THE DISPUTED CLAIM TERMS

A. “digital image” (Term 1)

’149 Claims 1, 9, 7, 18

MPV’s Proposed Construction	Defendant’s Proposed Construction
<p>No construction necessary.</p> <p>Plain and ordinary meaning, for example, an image in digital data format.</p>	<p>digital photograph</p>

The ’149 Patent is directed to an improved system “for the categorization and/or retrieving of digital images.” ’149 Abstract. Kodak recognized in around 2000 that “[w]ith the advent of digital cameras and digital imaging . . . images can be stored in databases.” *Id.* at 1:28-30. But this gave rise to a problem because “no easy and quick or efficient way for cataloging of these images, retrieving and/or reorganizing these images” existed at the time. *Id.* at 1:31-33.

In one embodiment, the novel solution developed by the Kodak inventors employs digital icons that are associated with selection categories that, in turn, are associated with digital images. *Id.* at 2:12-21. Employing digital icons in this unconventional way to associate categories and images represented a novel method of retrieval, categorization, and organization of digital images enabling retrieval and reorganization of stored digital images by a variety of criteria. *Id.* at 1:33-37. Another novel aspect of the claimed subject matter is the inventive use of icons as graphical user interface (“GUI”) components representing selection categories by which digital images may be categorized and retrieved. *Id.* At 2:4-6. This yielded improved performance in digital image storage systems by providing customizability and flexibility in “using predetermined characteristics of the icon for use in identifying non-categorized images for association with the category.” *Id.* at 2:38-40.

The term “digital image” is used throughout the ’149 patent to describe the operative subject matter of the inventions, and the inventors provided no special meaning or definition. Indeed, “digital image” was a commonly understood term circa 2000, and it is used in accordance with its well-known, ordinary meaning and requires no construction. Nevertheless, Xerox wants to restrict the scope of the claims to digital photographs, which is narrower than the disclosure in the specification and file history. Limiting the ’149 patent to the preferred embodiment is wrong.

The specification at Figure 3A describes obtaining images from various sources in addition to a camera including a scanner, file or even the internet. *See also*, ’149 at 3:42-48 (“digital images may be obtained by scanning of images by the user, or from a digital device such as a digital camera, or from a stored digital data file on the computer. Alternatively, the images may be obtained from the third party 28 over a

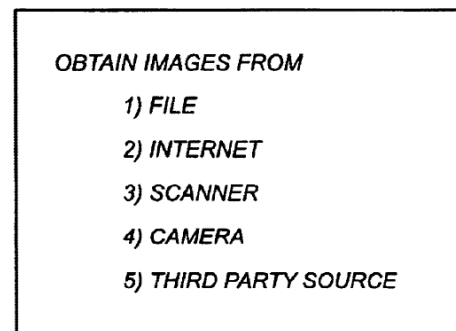


FIG. 3A

communication network such as the internet 24.”). The variety of sources disclosed by the inventors reflects the breadth of the invention. Scanned images of textual documents and drawings, neither of which are “digital photographs” and would be outside the scope of the patent under Xerox’s proposal, were well known in 2000 and are explicitly discussed in material incorporated by reference in the ’149 Specification. *Id.* at 9:18-22 (incorporating by reference U.S. Pat. No. 6,745,186).² In their description of how images may be ordered based upon characteristics, the inventors directed those of skill in the art to another Kodak patent that

² The reference to U.S. Ser. No. 09/802,387 was the subject of a Certificate of Correction filed by Kodak in 2011, which corrected the reference to “Ser. No. 09/640,642, filed concurrently herewith, now US patent 6,745,186.”

discloses how “initial images provided may be hard copy prints/documents which come in a variety of different forms or the images may be provided in digital (electronic) form.” Exh. A, U.S. Pat. No. 6,745,186 at 5:34-39; *see also, id.* at 4:17-18 (“The images may be obtained by digital scanning of hard copy documents such as photographic prints, film negatives, document drawings etc.”). Digital images were known to include scanned documents, drawings, and generally any image “digital (electronic) form.”

The prosecution history reinforces that the scope of the claim is broader than photographs. In explaining their invention to the Examiner, the inventors noted, “It does not matter how the images are obtained . . .” Exh. B, ’149 File History, Feb. 27, 2004 Resp. to OA at p. 8 (MPV-Xerox 001819).

Xerox’s proposal improperly narrows the claim to cover only a preferred embodiment. *DataTreasury Corp. v. Magtek, Inc.*, No. 2:03-CV-459-DF, 2006 U.S. Dist. LEXIS 100662, at *11 (E.D. Tex. Sept. 29, 2006) (citing *Embrex, Inc. v. Service Eng’g Corp.*, 216 F.3d 1343, 1347 (Fed. Cir. 2000) (“[t]he construction of claims is simply a way of elaborating the normally terse claim language[] in order to understand and explain, but not to change, the scope of the claims.”)); *Innova/Purewater, Inc. v. Safari Water Filtration Sys., Inc.*, 381 F.3d 1111, 1117 (Fed. Cir. 2004) (“particular embodiments appearing in the written description will not be used to limit claim language that has broader effect.”)).

Reflecting the universal meaning of the term, the Court has declined to construe similar terms in other cases. *See Uniloc 2017 LLC v. Verizon Commc’ns., Inc.*, No. 2:18-cv-00536-JRG, 2020 U.S. Dist. LEXIS 27600, at *26 (E.D. Tex. Feb. 18, 2020) (determining that “digital image” has its plain and ordinary meaning and requires no construction); *Adrain v. Am. Honda Motor Co.*, No. 2:14-CV-936-JRG, 2015 U.S. Dist. LEXIS 180273, at *3 (E.D. Tex. Aug. 5,

2015) (provisionally construing “digital image data” as having its plain meaning apart from the construction of “image data”). To the extent that any elaboration is appropriate, MPV’s proposal reflects how a person of skill in the art circa 2000 understood “digital image.” *See* Exh. C, Decl. of S. Sano at ¶¶14, 15 (“digital image would have a broader meaning to one of skill in the art at the time of the invention than a ‘digital photograph’”). A “digital photograph” on the other hand would commonly be understood to mean an image rendered by a digital camera. *See id.* at ¶¶14, 15. The specification explicitly encompasses more, adding that images are produced by “digital imaging.” ’149 at 1:28-30 (“With the advent of digital cameras and digital imaging, it is known that these images can be stored in databases.”).

Xerox’s proposal is out of step with its own use of the term. In one of Xerox’s patents, “digital image” refers to a fax document. Exh. D, U.S. Pat. No. 8,687,212 (Filed Feb. 4, 2009) 2014) at 1:47-48 (“An image scanner is a device that optically scans a document and converts it to a digital image.”) and claim 1 (reciting “receiving a digital image of a page of a fax document”).

B. “image” (Term 2)**’336 Claims 1, 2, 4, 5, 6**

MPV’s Proposed Construction	Defendant’s Proposed Construction
<p>No construction necessary.</p> <p>Plain and ordinary meaning, for example: a reproduction of the form of something <i>or</i> a stored description of a graphic picture, either as a set of brightness and color values of pixels or as a set of instructions for reproducing the picture or any complex scene that has been discretely sampled or generated by some digital imaging service</p>	<p>a picture that is produced by a camera, artist, mirror, etc.</p>

The ’336 Patent is directed to image product production. As a pioneer in the imaging space, Kodak solved a persistent problem in the graphical arts that arose when using images from different sources, obtained under different circumstances, and over time. ’336 at 2:5-8. Such images would lack parametric harmony when assembled in an image product. To achieve the goal of generating a “common look” among a batch of images for placement of images from that batch into an image product (such as albums, T-shirts, mugs, and the like), the Kodak inventors conceived a method in which image products could be harmonized for a common look by ensuring colorimetric consistency (as opposed to dissonance).

Like “digital image,” those of skill in the art and laypeople know what “images” are. This is “a ‘straightforward term’ that require[s] no construction.” *Summit 6 LLC v. Samsung Elecs. Co. Ltd.*, 802 F.3d 1283, 1291 (Fed. Cir. 2015). Xerox’s proposal imports a “produced by” requirement that improperly limits claim scope to pictures “produced by” an unbounded set of sources. Similar attempts to impose unnatural limits on the scope of this well-understood term have been rejected. *St. Clair Intellectual Prop. Consultants, Inc. v. Matsushita Elec. Indus. Co.*,

691 F.Supp.2d 538, 542, 553-55 (D. Del. 2010) (concluding that “image” does not require construction and that it is not limited in scope to “still pictures”); *Transcenic, Inc. v. Google, Inc.*, 7 F.Supp.3d 405, 413-414 (D. Del. 2013); *Positive Techs., Inc. v. Toshiba Am. Consumer Prods., L.L.C.*, No. 2:07-CV-67, 2008 U.S. Dist. LEXIS 117180, at *35 (E.D. Tex. July 1, 2008) (declining to construe the term “image”); *see also Optimum Imaging Techs. LLC v. Canon Inc.*, No. 2:19-CV-00246-JRG, 2020 U.S. Dist. LEXIS 102126, at *33 (E.D. Tex. June 11, 2020) (construing “the original optical image” to have its plain meaning).

The specification does not support Xerox’s restrictive proposal. A scanner, for example, is described as converting “hard copy documents, *such as* photographic prints, and turning the scanned images into digital record file . . .” ’336 at 13:3-6 (emphasis added). In discussing the deficiencies in the prior art, the inventors noted that “some attempts have been made in trying to organize the images and pictures taken by consumers,” implying a distinction between them. *Id.* at 1:43-44. Limiting the claims to a preferred embodiment as Xerox proposes ignores the breadth of different types of images “obtained from a variety of different sources” (*id.* at 1:32-33) that one of skill in the art would have been accustomed to working with at the time. Exh. C, Sano Decl. at ¶ 14 (“around 2000 it was common practice to scan hard copy images to digital images). Graphics specialists like Ms. Sano who worked in the field at the time of the invention would have a working understanding of “image” consistent with the ordinary meaning found in dictionaries. *See, e.g.*, Exh. E, WEBSTER’S II NEW COLLEGE DICTIONARY 551 (1999) (defining “image” as “a reproduction of the form of someone or something”). That plain, ordinary meaning is compatible with the entirety of the intrinsic record and the understanding of those in the art.

C. “improve the visual appeal” (Term 3)**’336 Claims 1, 2, 4, 5, 6**

MPV’s Proposed Construction	Defendant’s Proposed Construction
harmonizing visual presentation to provide common look Not indefinite.	Indefinite.

Persons of skill in the art read the claim term “improve the visual appeal” with the prepositional phrase that follows: “by providing a common look among said plurality of images.” This context provides reasonably certain scope to an artisan. *Nautilus, Inc. v. Biosig Instruments, Inc.*, 572 U.S. 898, 910 (2014).

Obtaining a common look was a commonly recognized challenge at the time of the inventions, and those of skill in the art understood and appreciated the popular objective of “harmonizing [the] visual presentation to provide [a] common look” among images from various sources and having different parameters. Exh. C, Sano Decl. at ¶¶ 17, 18, 20, and 22.

In the late 1990s and early 2000s, imaging professionals were commonly asked by their clients to improve the visual appeal of a set of images, which at that time was objectively understood as a request to commence professional services using the following workflow: (1) matching the resolution of images, (2) evaluating their color, and (3) making appropriate modifications based on the color evaluation. *Id.* at ¶ 18. The resolution-matching step of the workflow was necessary because camera resolutions varied substantially at that time, and having a uniform resolution was essential to harmonizing the visual presentation of the images. *Id.* at ¶¶ 18 and 19. The color-evaluation step of the workflow was necessary because color schemes can vary significantly from image to image so much so that they cannot be readily superimposed or juxtaposed; for example, a client seeking a promotional poster for a stage performance might

provide a professional with (a) “action shots” of stage performers taken with one kind of camera under lighting conditions suitable for stage performances and (b) “headshots” of the same stage performers taken with another kind of camera in a photo studio under controlled lighting conditions. *Id.* at ¶ 20. But “action shots” and “headshots” in their original conditions are too disparate in their color schemes such that mere color balancing, saturation, and shadow/highlighting techniques would be insufficient to accommodate the desired superimposition or juxtaposition of the “action shots” and “headshots” into a final promotional poster because the images’ visual presentations are not in harmony with one another. *Id.* at ¶¶ 18, 19, and 20. In such a situation, an imaging professional would decolorize the “action shots” and the “headshots” and then uniformly apply a common color scheme to both before proceeding to the next step of the workflow, thereby harmonizing the visual presentation of the images. *Id.* at ¶¶ 17, 18, 19, 20, and 21. The final step of the workflow—the modifications step—involves adjustments of color balance, of saturation, and the application of shadows and highlights with respect to the images whose visual presentations are sufficiently in harmony with one another. *Id.* at ¶¶ 18, 20, and 21.

Turning to the intrinsic evidence, the specification discusses “improving image characteristics” (’336 at 13:47-15:32) and expressly links that improvement to the provision of “a similar look to all of the images in a group.” The specification further describes the provision of a common look as “desirable,” (*id.* at 14:1-2) which is consistent with the claimed “improve[ment]” and a skilled artisan’s knowledge and experience. Exh. C, Sano Decl. at ¶¶ 17, 18, and 22. The file history (including the April 22, 2004, Response to the February 18, 2004, Office Action to which Xerox alludes) confirms that the claimed “common look” clarifies the

meaning of the claimed “improve[ment].” Exh. F, Excerpt from ’336 File History at MPV-Xerox 002095.

Extrinsic support for MPV’s construction is found in *Colorimetry: Understanding the CIE System*, a recognized work that discusses how modeling color appearance has historically been an area of great interest, producing a significant volume of research and advancement. “[T]he heart of a color appearance model is a perceptually uniform color space.” Exh. G, JOHN WILEY & SONS, *COLORIMETRY: UNDERSTANDING THE CIE SYSTEM*, 296-300 (Janos Schanda ed., Wiley 2007). “At the heart of all color difference equations, and color appearance models lies some form of uniform color space.” *Id.* at 297. “[C]olor appearance models were developed to extend traditional CIE colorimetry to the prediction of overall color appearance, not just color matches, specifically across changes in media and viewing conditions[.]” *Id.* at 298.

The relationship between the visual appeal of images in a group and the extent to which those images share a common look is well known and reasonably certain to those of skill in the art in light of the claims and the specification. Exh. C, Sano Decl. at ¶¶ 17, 18, 20, and 22.

D. “automatically adjusting the colorimetric aspect” (Term 4)

’336 Claims, 1, 2, 4, 5, 6

MPV’s Proposed Construction	Defendant’s Proposed Construction
automatically adjusting at least one parameter describing color	automatically (i.e., not at the request of a user or customer) adjusting at least one parameter describing color

A person of ordinary skill in the art would read “automatically adjusting the colorimetric aspect” in context of the entire claim, which continues, “of the plurality of images.” Xerox proposes a negative limitation that is neither inherent in the meaning of “automatic” nor supported by a disclaimer or special meaning given by the inventors. The claim plainly recites

that adjusting is automatic. But it does not require automatic initiation or preclude a user/customer request.

The specification confirms that the means of automation (such as image data manager 360 within System 330 found at Sheet 22) may in fact be “preprogrammed” or even follow “instructions that have been machine read.” ’336 at 13:47-50. Xerox’s negative parenthetical limitation would exclude these embodiments in which a user/customer has communicated its requests by preprogramming or loading machine-readable instructions implemented by an image data manager. The claims simply provide no textual basis for Xerox’s added limitation.

The file history unremarkably confirms that *adjustment of the plurality of images* is automatic, but it does not contain any disclaimer of user/customer initiation by preprogrammed instruction or contemporaneous instruction. *See, e.g.*, Exh. F, ’336 File History, Apr. 22, 2004 Resp. to OA, p. 6 (MPV-Xerox 002096). Such pre-programmed adjustments may be automatically applied, but they are not necessarily initiated without a user/customer request. A person of skill in the art at the time practicing the invention by writing software to carry out the claimed method would understand that automatic refers to the execution of pre-programmed or algorithmic colorimetric aspect adjustments that are contemporaneously controlled by the user/customer or set to run in advance.

Extrinsic evidence shows that Xerox knows this. In one of Xerox’s own patents, Xerox describes as “automatic” the relationship between user input and tool-generated behavior (Sheet 1, at elements 14, 16, and 18). Exh. H, U.S. Pat. No. 9,747,010 (filed Jan. 16, 2014) at 5:25-30. In Xerox’s patent claims, “content regions” are “automatically resiz[ed]” based on “receiving a first type of user input identifying a [first/second] selected visual content area . . .” The automatic resizing process depends upon input from a user. Of course, that contradicts the

meaning Xerox seeks to ascribe to “automatic” in this case. The only thing “automatic” denotes in “automatically adjusting the colorimetric aspect” is the adjustment of a parameter describing color. In all other respects, the proposed constructions of MPV and Xerox are the same.

E. “predetermined criteria” (Term 5)

’336 Claims 1, 2, 4, 5, 6

MPV’s Proposed Construction	Defendant’s Proposed Construction
Parameter used for selecting images	No construction necessary. Plain and ordinary meaning, for example, preselected criteria used for organizing or placing images.

“Predetermined criteria” means a “parameter used for selecting images” because the context of the claim language requires, and the intrinsic evidence confirms, the image organization (i.e., selection) is based upon criteria that can be applied to distinguish, identify, or group images. *See, e.g.*, ’336 at 14:6-13 (“the customer may simply provide a group of image[s] and provide some criteria upon which they are to be grouped”). In claim 7, “predetermined criteria” must “comprise [the] use of a separated image” which refers to “separation of the background and the person (or other item)” such as those obtained using a “blue screen.” ’336 at 14:15-21. Thus, claim 7 describes using a parameter comprising the separated image (i.e., the foreground object such as a certain face or object) in selecting images (for example, selecting that are similar because a similar form is present in those images). Claim 1 is, of course, broader and in light of the specification is understood generally to require basing image selection (i.e., organization and “placing said images”) in accordance with a parameter to be applied to the images.

The specification describes the claimed criteria as a parameter embodying an end-user’s selection. ’336 at 14:3-10. The specification discusses “images associated particularly or

desired by that particular individual” which are “accessed and resorted on the basis of *the criteria determined by that individual.*” *Id.* at 17:21-26 (emphasis supplied). The specification further clarifies that “a variety of different type criteria may be provided so as to reorganize the images already presently on file.” *Id.* at 17:26-28. In short, the specification describes using determinative parameters for image selection consistent with MPV’s proposed construction, which will aid the jury.

Extrinsic evidence supporting MPV’s proposed construction is found in *Gemstar-TV Guide v. ITC*, 383 F.3d 1352, 1380 (Fed. Cir. 2004) where “said user selection criteria” was construed as a reference to “any parameters chosen by the user to search for a program.” The word “criteria” is also understood to denote “rules,” *EMSAT Advanced Geo-Location Tech. LLC v. MetroPCS Comms. Inc.*, No. 2:08-cv-381-DF-CE, 2010 U.S. Dist. LEXIS 62196 at **20-21 (E.D. Tex. Jun. 23, 2010), and to denote a “condition.” *Synopsis, Inc. v. Magma Design Automation, Inc.*, No. C-04-3923 MMC, 2005 U.S. Dist. LEXIS 46882 at *50 (N.D. Cal. Aug. 23, 2005).

In its plain-and-ordinary definition, Xerox simply remixes the claim language to contend that “predetermined criteria” is “pre-selected criteria used for organizing or placing images.” In so doing, Xerox imports an unnatural requirement that the criteria must have been “selected” which is narrower in scope than “determined” and is inconsistent with the intrinsic record. ’336 at 6:44-7:18 (information to be associated with scanned images need only be “preprogrammed” and not “selected” by anyone). Moreover, Xerox’s proposal fails to illuminate the meaning of “criteria.”

F. “automatically” (Term 6)**’890 Claims 5, 6, 8, 9, 10, 12**

MPV’s Proposed Construction	Defendant’s Proposed Construction
<p>No construction necessary.</p> <p>Plain and ordinary meaning, for example, operating in a manner independent of external influence or control</p>	<p>without user intervention</p>

The ’890 Patent is directed to balancing workload among output devices by “providing an efficient system whereby job orders can be routed automatically to the most efficient output device and provide means for allowing quick and easy rerouting in the event there is a problem with certain output devices.” ’890 at 1:44-47.

The claims recite “automatically adjusting the operational status” of an output device (e.g., a printer) in response to monitoring a plurality of devices “with respect to [] job orders in a queue.” *E.g.*, ’890 claim 5. Claim 9 recites this function carried out by software. Neither the claims nor the specification preclude user intervention in load-balancing operations. Indeed, the specification explicitly states otherwise: “It is to be understood that various other automatic features may be set up whereby the controller will either reroute or provide an appropriate visual and/or audible alarms so that the operator and/or controller may take appropriate action.” ’890 at 7:59-62.

In the context of the specification, the claims describe an automatic adjustment (e.g., printer queues) that may be effectuated by operator action (e.g., taking appropriate action to confirm rerouting). Xerox’s proposal improperly adds a “negative limitation[] that restrict[s] the scope of the claims to exclude embodiments that perform additional functions.” *Ne. Univ. v. Google, Inc.*, No. 2:07-CV-486-CE, 2010 U.S. Dist. LEXIS 118977, at *40 (E.D. Tex. Nov. 9,

2010). “Negative limitations added during claim construction must find support either in the specification or the prosecution history.” *Eko Brands, LLC v. Adrian Rivera Maynez Enters.*, 946 F.3d 1367, 1381 (Fed. Cir. 2020) (citing *Omega Eng’g, Inc. v. Raytek Corp.*, 334 F.3d 1314, 1322 (Fed. Cir. 2003)).

G. “said at least one criteria” (Term 7)

’890 Claims 8, 12

MPV’s Proposed Construction	Defendant’s Proposed Construction
No construction necessary. Not indefinite.	Indefinite

“predetermined criterion” (Term 8)

’890 Claims 6, 8, 10, 12

MPV’s Proposed Construction	Defendant’s Proposed Construction
No construction necessary. Not indefinite.	Indefinite

These two criteria terms are related. Dependent claims 8 and 12 recite “said at least one criteria” finding antecedent basis in claims 5 and 9 respectively, which recite “when said operational efficiency reached . . . a predetermined criterion.”³ The claims, “viewed in light of the specification and prosecution history, inform those skilled in the art about the scope of the invention with reasonable certainty.” *Nautilus, Inc. v. Biosig Instruments, Inc.*, 572 U.S. 898, 910 (2014). (“the certainty which the law requires in patents is not greater than is reasonable, having regard to their subject-matter”). The claims explicitly recite various criteria used for

³ Claim 5 specifies the “operational efficiency of *said photofinishing lab* reached a predetermined criterion,” which additional language (italicized) does not change the meaning of criterion or the claim construction analysis.

measuring operational efficiency. Claims 8 and 12, for example, recite the number of jobs in queue, shipping information for them, and time to complete queued jobs, and the Specification provides more examples. *See* '890 at 6:48-52 (“An example of a predetermined criterion is that the order must be printed and shipped by a particular time.”); 6:55-59 (“Another criterion could simply be the balancing of the workload for the various output devices. Yet another example is that the controller determined that the output of a particular device has been interrupted . . .”).

To the extent Xerox contends the terms lack reasonable certainty due to a singular/plural difference between the independent (“a predetermined criterion”) and dependent (“said at least one criteria”) claims, one skilled in the art would understand that the claims contemplate monitoring of many criteria, examples of which are recited in the dependent claims, and any one of them may trigger a visual indication when reached. '890 at 7:22-28 (“If the controller determines that there are not enough job orders in queue . . . or that the job cannot be printed . . . or that the flow rate of images through the system and/or a particular output device, falls below a particular value, then an appropriate visual and/or audible alarm is produced.”).

The file history provides additional certainty. Referring to then-pending claim 17, which issued as independent claim 9, the inventors explained to the Examiner that “claims 18 and 19 are dependent claims that further define either the operational efficiency or *the at least one criteria* set forth in the independent claim 17 upon which they each depend.” Exh. I, '890 File History, July 28, 2005 Resp. to OA at p. 10 (MPV-Xerox 002315). One skilled in the art would also appreciate the open-ended “comprising” transition in the independent claims and appreciate that the controller may produce a visual indication upon a multitude of different predetermined criterion. The inventors’ use of “criterion” in the claims is akin to using an indefinite article like “a” or “an” that carries the meaning of “one or more” in patent parlance. *Simpleair, Inc. v. Apple*

Inc., No. 2:09-CV-289-CE, 2011 U.S. Dist. LEXIS 99404, at *28-29 (E.D. Tex. Sep. 2, 2011).

Read in context of the dependent claims and the intrinsic record, one skilled in the art would understand the scope of the claims to include at least one criteria, any one of which when reached would result in the “controller producing a visual indication.”

H. “belief map” (Term 9)

’573 Claims 1, 2, 3, 7, 13, 16, 23, 25 32

MPV’s Proposed Construction	Defendant’s Proposed Construction
a collection of values, each value corresponding to the likelihood and/or degree of confidence that an individual pixel in the image belongs to the target subject matter	a collection of values wherein the values correspond to the likelihood and/or degree of confidence that each individual pixel in the image belongs to the target subject matter

The ’573 patent expands on Kodak’s pioneering method for detecting a specific subject matter within a digital image. Using statistical techniques the method develops a belief map indicating the degree of belief that a given pixel in the digital image belongs to the target subject matter. The ’573 patent discloses and claims a method for finding the target subject matter in an image and then enhancing the image taking into account the target subject matter. ’573 at 1:6-9. At the time of the invention, image enhancement techniques could be performed to improve the overall quality of an image. *Id.* at 1:13-20. The prior art enhancements, however, were limited in that they could only be performed on the entire image or performed on similarly colored pixels. *Id.* at 1:21-47. As a result, the prior art image enhancements would improve the appearance of some objects in an image while having undesirable effects on the appearance of other objects in the image. *Id.* at 1:25-28; 1:32-34; 2:29-32.

The ’573 patent solved this problem by identifying objects in an image and determining an enhancement of the image based on the identification of those objects. *Id.* at 2:57-60. The

'573 patent describes applying a subject matter detector to develop a subject matter belief map. *Id.* at 4:17-19. The belief map “indicates the belief that particular pixels represent the target subject matter.” *Id.* at 4:31-33. The belief map could also contain binary values to indicate that a pixel does or does not belong to target subject matter. *Id.* at 4:33-44. The determination of whether to perform an enhancement and, in certain circumstances, the degree to which individual image areas are enhanced, is predicated upon the belief values. *Id.* at 2:64–3:3; 3:62-67.

The parties agree that a belief map is a collection of values related in some way to pixels in an image but disagree on what portion of the image must be represented by the belief map. Specifically, Xerox wants the “belief map” to reflect belief values for “each” pixel in the image, but MPV’s proposed construction requires only that the “collection of values” correspond to some number of individual pixels in the image.

Nothing in the claims or intrinsic record compels a construction limiting a “belief map” to a map of all the pixels in the image. The claims refer to “pixels in the digital image” and not to all pixels or “each” pixel in the image. MPV’s proposal reflects that belief values are determined with respect to “individual” pixels to reflect whether that pixel “belong[s] to target subject matter.” There is no requirement in the claims or the specification that each pixel in the image be assigned a belief value. This is made clear by dependent claim 2, which expressly requires “assigning . . . belief values to each of the pixels of the digital image.” Under the doctrine of claim differentiation, “[t]here is presumed to be a difference in meaning and scope when different words or phrases are used in separate claims.” *Comark Commc’ns v. Harris Corp.*, 156 F.3d 1182, 1187 (Fed. Cir. 1998) (internal quotes omitted). Because the dependent claim includes the word “each” and claim 1 does not, the word “each” should not be read into the

independent claims. If the inventors wanted a belief value to be assigned to “each” pixel of the digital image, they would have included this language in the claims.

I. “varying pixel by pixel” (Term 10)

’573 Claim 1

MPV’s Proposed Construction	Defendant’s Proposed Construction
No construction necessary. Plain and ordinary meaning, for example, varying by the smallest element of an image	varying each pixel separately using characteristics of that pixel

“controlling the degree of image enhancement pixel by pixel” (Term 11)

’573 Claim 7

MPV’s Proposed Construction	Defendant’s Proposed Construction
No construction necessary. Plain and ordinary meaning, for example, controlling the degree of enhancement by the smallest element of an image	controlling the degree of image enhancement for each pixel separately using characteristics of that pixel

“varying the control signal pixel by pixel” (Term 12)

’573 Claim 13

MPV’s Proposed Construction	Defendant’s Proposed Construction
No construction necessary. Plain and ordinary meaning, for example, varying the control signal by the smallest element of an image	varying the control signal for each pixel separately using characteristics of that pixel

These “pixel by pixel” terms describe operations performed on an image, and for each term Xerox proposes adding limitations that require operating on “each pixel separately” and

“using characteristics of that pixel.” Nothing in the claims or specification require enhancing each pixel in an image for the reasons discussed above regarding “belief map.” Indeed, the specification describes that “for certain regions of an image, the enhancement operation may not be performed at all . . .” ’573 at 2:66-3:3. Nor do the claims or specification require using characteristics of each specific pixel to perform image enhancement. Indeed, the claims expressly contradict that aspect of Xerox’s proposal.

Claim 1 recites “enhancing the digital image . . . in accordance with both the degree of belief and size of the respective said belief region.” In other words, enhancing pixel by pixel depends not on that particular pixel’s characteristics but rather on the subject matter of the image, which necessarily requires using regions of pixels comprising a “belief region” to determine whether and to what extent enhancement is required. The specification describes this methodology in terms of “produc[ing] a belief map indicating the degree of belief that pixels in the image belong to target subject matter; providing an image enhancement operation . . .; and applying image enhancement to the digital image . . .” ’573 at 2:45-51.

This is, in fact, how image enhancement works. A single pixel, analyzed in isolation, cannot provide the information necessary to know whether it comprises subject matter or is an errant speck (i.e., noise). Exh. C, Sano Decl. at ¶¶ 10, 11. In another example from the specification, characteristics of a single pixel, analyzed alone, are insufficient to determine a skin-tone region. *Id.* at ¶ 11. The specification acknowledges this fact, explaining:

Thus, the amount of enhancement applied to individual images, or individual regions within a particular image, may vary depending on the image content. The amount of enhancement applied to any particular image or any particular region in an image is selected to be appropriate for the specific image content.

’573 at 3:62-67. Varying the control signal and controlling the degree of enhancement typically uses characteristics of more than one pixel. *See, e.g.*, ’573 at 10:3-6 (“in the previous example,

the value of the control signal at a particular location was shown to be dependent upon only the corresponding values of one or more belief maps $M_i(x,y)$ ”) and 10:29-33 (“The enhancement control signal generator 34 then creates an enhancement control signal in which the control value at each location is dependent on the corresponding belief map $M_i(x,y)$ values, the location map $L_i(x,y)$, and the size map $S_i(x,y)$.”). Enhancement is performed on pixel regions, not on each pixel separately, and uses characteristics of “neighboring pixels.” *Id.* at 12:3-4, 16-18.

J. “automatically” (Term 13)

’966 Claims 1, 8, 9, 10, 12, 16, 23, 24, 25, 27, 34

MPV’s Proposed Construction	Defendant’s Proposed Construction
No construction necessary. Plain and ordinary meaning, for example, operating in a manner independent of external influence or control	Without user intervention

“automatically searching” (Term 14)

’966 Claims 1, 8, 9, 10, 12, 16, 23, 24, 25, 27, 34

MPV’s Proposed Construction	Defendant’s Proposed Construction
No construction necessary. Plain and ordinary meaning, for example, searching in a manner independent of external influence or control	initiating a search without user intervention

The ’966 Patent is directed to improving how digital image products (often comprised of compiled images like albums) are developed and built. ’966 at 1:19-23. The Kodak inventors overcame problems due to distributed storage and inefficient image retrieval by conceiving a system that uses digital templates having digital containers for placement of digital content

retrieved from storage based upon designated image parameters used to search an image database. *Id.* at 1:54-62.

“Automatic” and “automatically searching” present the same claim construction dispute: whether the function recited (“automatically searching a database of image content”) must occur without any user intervention or input. The rest of the claim language answers that question in the negative. The claims recite “automatically searching a database of image content,” using parameters and input from a user. Xerox’s proposal prohibiting user intervention creates unnecessary tension in the claim language by suggesting that the “designated image parameter” could not be designated by the user. Such an interpretation is contrary to the plain language of dependent claim 8, which recites “wherein the designated image parameter is modified or selected by a user.”

The specification contemplates and discloses user intervention in the image content search process. *See, e.g.*, ’966 at 5:29-35 (“After background image content *has been selected by the user*, at steps 244 and 246 repeat the process of searching relevant image content databases”) and 5:12-15 (“These representations of image products have templates associated with them that *permit the customization of the image product to the specific user* operating the computer 210.”) (emphasis added).

The file history does not reflect a disclaimer of user intervention. Rather, the inventors emphasized that prior art database searches were manual “whereas in the present invention all the user need do is identify a designated image parameter with each of the image containers wherein the search engine” Exh. J, ’966 File History, June 22, 2005 Resp. to OA, pp. 10-11 (MPV-Xerox 002872-73). In distinguishing the manual searches of the prior art, the inventors specifically noted the user intervention that is required as part of the invention’s automatic

searching. After the user identifies a designated image parameter, the inventors explained, the “search engine automatically obtains various images for placement at each of the respective image containers. The searching is done automatically and *without any further assistance by the user.*” *Id.* at 146. The intrinsic record contemplates some user intervention, which Xerox’s proposal contradicts. *Vitronics Corp. v. Conceptronic, Inc.*, 90 F.3d 1576, 1583 (Fed. Cir. 1996) (“A claim interpretation that excludes a preferred embodiment from the scope of the claim ‘is rarely, if ever, correct.’”).

K. “automatically . . . providing”(Term 15)

’966 Claims 1, 8, 9, 10, 12, 16, 23, 24, 25, 27, 34

MPV’s Proposed Construction	Defendant’s Proposed Construction
<p>No construction necessary.</p> <p>Plain and ordinary meaning, for example, providing in a manner independent of external influence or control</p>	<p>initiating a provision without user intervention</p>

In addition to the arguments above regarding the “automatically searching” terms, this term presents the syntactical question of whether “automatically” also modifies the later-recited function of “providing at least one image content candidate for placement in said at least one digital container.” ’966 claim 1. The specification does not describe “automatically providing.” Rather, it simply describes “[i]n step 242, the user is provided with a selection of candidate background images retrieved from image content database 222 . . .” ’966 at 5:17-20.

Even if “automatically” is read to modify “providing,” the intrinsic record compels an interpretation that permits user intervention. In one particular embodiment, user intervention is required. *Id.* at 6:20-23 (“Additional image content candidates can be displayed by actuating the scroll bar 290, which is only active if additional image content candidates have been identified

by not displayed.”). Thus, in this embodiment, providing image content candidates for placement necessarily requires user intervention to scroll through them. Xerox’s proposal would exclude this embodiment. The remaining language of the claim element is also significant because it recites “providing . . . for placement in said at least one digital container.” *Id.* at claim 1. Placement of image content in the digital container requires user intervention. *Id.* at 5:34-36 (“presenting the appropriate content to the user for final selection . . . the user confirms the correct selection of all container content and permits the completion of the image product.”).

L. “digital container for placement of digital image content . . . having at least one designated image parameter” (Term 16)

’966 Claims 1, 8, 9, 10, 12, 34

MPV’s Proposed Construction	Defendant’s Proposed Construction
image reference in a template having at least one parameter	No construction necessary.

A “digital container” requires (1) a reference to an image; (2) that the image reference is part of a template; and (3) that the image reference has at least one parameter. The “container” disclosed in the specification (’966 at 3:37-4:11) and corresponding Figure 1 (elements 10, 20, 30, 40, 50, 60, and 70) refers to an image (’966 at 3:37-40), and the container is part of a template (element 100). Each container has image parameters associated with it. ’966 at 5:19-22. One of skill in the art would recognize these as indicia of the inventive data structure (the “digital container”) of the claimed inventions. Without this construction as an aid, the jury may struggle to understand this term of art.

M. “image content candidate” (Term 17)**’966 Claims 1, 8, 9, 10, 12, 34**

MPV’s Proposed Construction	Defendant’s Proposed Construction
image having desired parameter	suggested image content having at least one said parameter

The dispute on this term is narrow: whether an “image content candidate” must be “suggested,” as Xerox proposes. The only mention in the claims or specification of “suggesting” image content is with respect to the background art. ’966 at 1:29-30 (“but image product templates don’t suggest the type of images to use”). The claims recite “providing at least one image content candidate,” which a user may select from a ranked list, but the intrinsic record does not support reading into the claims a “suggested” limitation that implies intent. In discussing the prior art background, the inventors noted that it then-existing “image product templates don’t suggest the type of images to use” and that the Aihara reference “doesn’t automatically search for or suggest images to fill a predetermined location on a template that has predetermined locations and criteria, which create an image product such as an album page.” ’966 at 1:29-30, 38-53. This passing comment does not warrant reading a limitation into the claims. The inventors were simply using shorthand to refer to the invention’s parameter-matching functionality.

The specification describes how image content candidates are “retrieved from image content database . . . that meet the designated image parameters/characteristics of tags” (’966 at 5:18-21) and “identified by matching tags with metadata that has been associated with a database of image content” (’966 at 5:64-67). “Candidate image content that matches tags 41 and 42 can be ranked by the tags and further ranked by the dimension of the image file.” ’966 at 6:5-7. And

this particular ranking functionality is claimed in dependent claim 26. Thus, image content candidacy is simply a result of having [a/some] desirable parameter[s]. To the extent a ranking is a suggestion, that limitation appears in the dependent claims so importing that concept as a limitation in the independent claim is improper. But “suggesting” implies intent, and simply providing a ranked list generated algorithmically does not constitute intent. Image content candidates simply have a desired parameter.

Finally, there appears to be no real dispute that image content candidate is an image. The claim terms “content” and “digital container” are both etymologically derived from the root word “contain” so one of skill in the art would understand the “content” refers to the object that is “digital[ly] contain[ed]” in a “digital container.” The compound term “image content,” therefore, refers to the image that is digitally contained in the digital container.

IV. CONCLUSION

Many of the claim construction disputes presented here are litigation-inspired infringement issues. In most instances where Xerox proposes a narrowing construction, the intrinsic record contradicts. For the terms alleged by Xerox to be indefinite, the specification and perspective of one skilled in the art demonstrate that claim scope is reasonably certain. For the remaining few terms, which are known in the art but not likely to laypeople, MPV proposes constructions that will aid the jury in deciding the infringement questions.

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Respectfully submitted,

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CERTIFICATE OF SERVICE

I certify that the foregoing document was filed electronically with the Clerk of Court on May 12, 2022, using the CM/ECF system which will send notification of such filing to all counsel of record.

/s/ Cabrach J. Connor
Cabrach J. Connor